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The JOURNAL of GEOGRAPHY

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GEOGRAPHIC NOTES ON THE ILLINOIS OZARKS AND ADJACENT SOUTHERN ILLINOIS

HELEN M. STRONG
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The Illinois Ozarks are in the section of Illinois known as "Egypt," which comprises the eleven southern counties of the state. Within this area are three physiographic provinces, the southern border of the Glacial Plains, the northern embayment of the Coastal Plain, and the Ozarks. The latter province covers the major portion of the area.

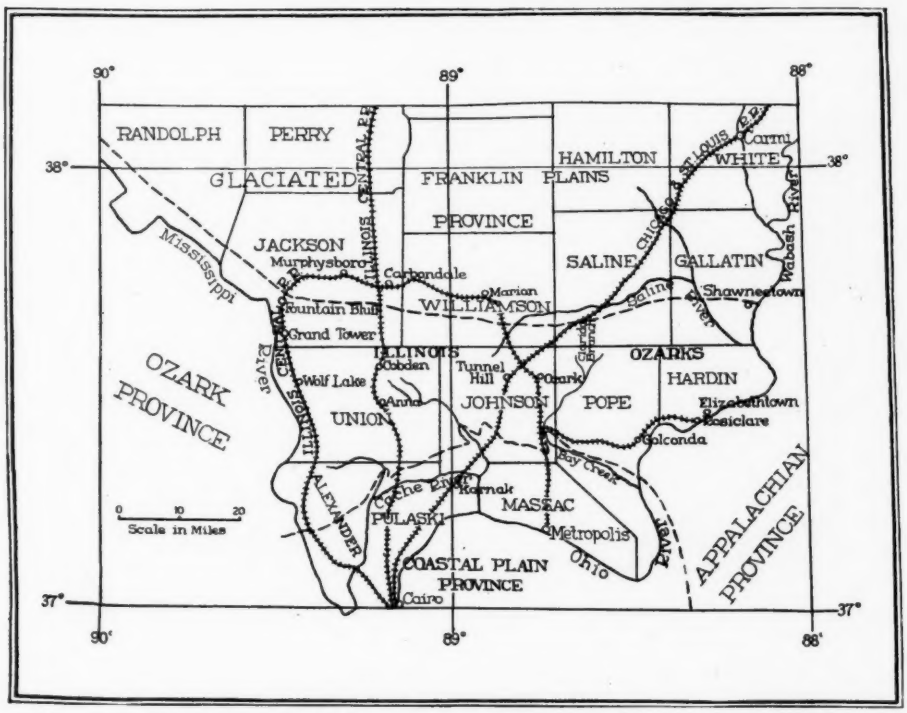

FIGURE 1. Sketch map of physiographic provinces of southern Illinois. After Shaw and Savage: Murphysboro-Herrin Folio, p. 1, U.S.G.S.

The glaciated plains cover the northern half of the tier of four northern counties. They have a gently undulating relief, and a deep fertile soil. The Pennsylvanian coal measures underly this section, and mining is carried on extensively at Carbondale and neighboring towns.

The Illinois Ozarks is a spur extending from the main Ozark uplift in Missouri, across the southern part of Illinois to Shawneetown. The topography is rugged, most of the hilltops being capped with resistant Pottsville sandstone, into which streams have cut large and small steep-sided valleys. The crest of the uplift trends in general east and west,

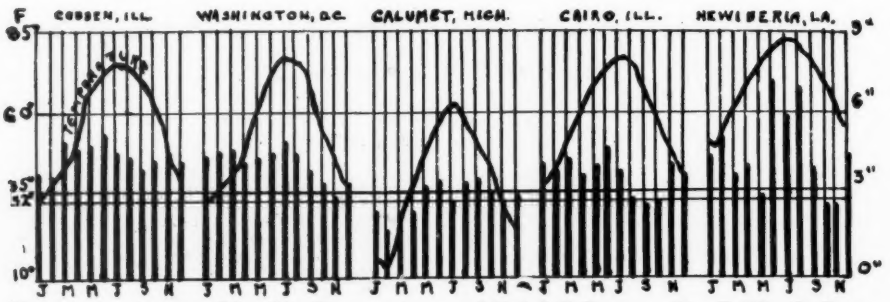

Figure 2. Average Monthly Temperature and Rainfall Curves. U. S. Weath. Bur.

the elevation becoming progressively lower toward the east. The northern slope, which is steeper than that on the southern side, rises abruptly from the till plain along an east-west fault line. At Cave Hill, one of the elevations of the Ozark Front on this fault line, the relief is about 700 feet. The sharp rise of upland from plain is a notable topographic feature. The Ozarks slope gradually southward to the Ohio River in broad cuestas capped with sandstone and underlain by sandstone and shale.

Figure 3. Upland farm near Ozark

The Coastal Plain is flat and poorly drained, reaching into the highlands from the south, in re-entrant valley embayments, as at Karnak along the Cache River. River valleys in the coastal plain are broad and poorly drained. The Cache River flows thru a wide valley, formerly the course of the Ohio.

The Ozarks, due to their rugged topography, are isolated from adjacent regions. Railroads, with three exceptions, have gone around, rather than thru this almost mountainous portion of southern Illinois.

FIGURE 4. Tupelo swamp near Karnak

These railroads do not open any considerable tributary area because of the poor roads, and rough country. Roads are an impassable mire of wet sticky clay, except during the dry autumn season. Many of the so-called roads are merely the beds of streams, and can be traveled only when the water is low, or the channels dry. Bridges practically are lacking. Among these valleys and hills of the Ozarks, so difficult of access, are many beautiful places, worthy of being made into parks. These would attract the motorist, if good roads were built thru the region.

Cultivated land in "Egypt" is found in three situations: the broad hill-tops in the Ozarks underlain by limestone and shale; valley bottoms

FIGURE 5. Cypress near Karnak. Cypress knees are shown in middle foreground. This swamp has been drained

FIGURE 6. A scene on the Mississippi flood plain near Wolf Lake. The bluffs of the Illinois Ozarks rise abruptly a short distance away, out of sight behind the woods

along the Cache, Ohio, and Mississippi Rivers; and north of the Ozarks in the till plains. Valley slopes in the Ozarks, are for the most part, too steep and rocky for agriculture, while some broad valley bottoms are undrained, and lack good transportation facilities.

Hilltop land in some places is adapted especially well for fruit culture, and apple orchards located in such places are increasing in number and extent. The apples grown are graded and sent to Chicago and Saint Louis. Wheat is grown in some of the valley bottoms, as along the Cache at Karnak. Truck is the money crop of the Union County bottom lands. Sections along the Cache in Johnson and Pulaski Counties are also well suited for truck farming, but transportation

FIGURE 7. Deserted log cabin near Ozark

facilities are not available for moving the produce to markets, chief of which are Chicago and Saint Louis. The season in southern Illinois is about four weeks earlier than near Chicago, thus early vegetables from "Egypt" find a good market in the lake city.

Forest originally covered all of these eleven counties south of the Glacial Plains. The broad flat-topped hills have been cleared, but the soil is fine and gullies easily, so that much valuable land which ought to have been kept in forest has been injured irreparably. Today forest covers most of the valley sides, the narrow valley bottoms which cannot be cultivated, and some of the coastal plain bottoms.

A survey of the native vegetation of southern Illinois reveals an overlap of floras from the four adjoining regions, the northern flora,

FIGURE 8. Cypress swamps, Karnak

the flora of the Alleghenies, of the Gulf Coastal Plain, and of the Missouri Ozarks. It is a notable fact that these floras find in this region their southern, western, northern, and eastern limits. The filmy fern (Trichomanes Boschium), a tropical plant, and the rattle-snake plantain and lycopodium (Ground Pine) which are found north to the Arctic Circle, grow within three feet of each other, at the base of a dripping sandstone cliff in Bethell Hollow, beside a tributary of Bay Creek. The cypress, southern alder (alnus rugosa), and yellow pine, as well as Hottonia inflatus, have advanced into the region from the southern coastal plain. The red cedar and reindeer lichen, in addition to the rattlesnake plantain and lycopodium already mentioned, represent the northern plant association. The dominant flora is that

FIGURE 9. The rich farming country along the Mississippi bottoms north of Fountain Bluff. Dogwood in bloom in left foreground

of the Alleghenies. Those of its members found here are the azalea (rhododendron nudiflorum), chestnut oak (quercus prinus), tulip poplar (liridendron tulipifera), and the black and red gums. The presence of several varieties of hickories and of the pecans is an Ozarkian advance from the Southwest.

Climatic factors have been important in making these southern counties of Illinois both the meeting ground and the limit of extent for these floras. Probably the most important of these climatic influences have been effective rainfall, which is the amount of moisture available for plants, temperature, and evaporation. A comparison of climatic charts for the adjoining regions, with charts for southern Illinois, indicates the probability of climatic relations between these regions.

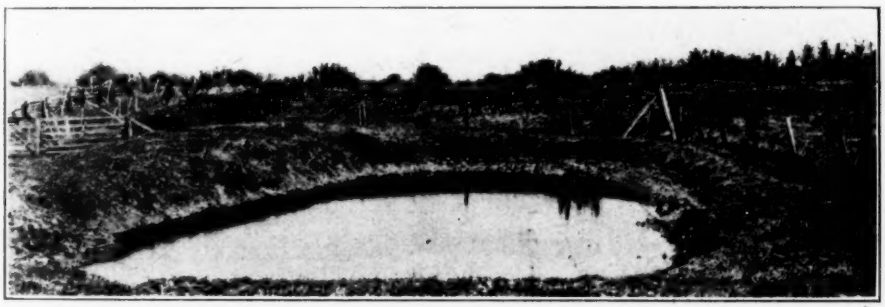

FIGURE 10. Watering tank for cattle on the Ozark upland. Young apple orchard in the background

In distribution, amount, and type, the annual precipitation in the Ozarks (57 inches) is similar to that in the Alleghenies (55 inches) where the azalea and chestnut oak flourish. The temperatures are practically the same in range and mean monthly averages. Thus essentially the same climatic conditions exist in the Alleghenies and the Illinois Ozarks, the azalea having migrated westward within the belt where these conditions prevail. Farther west a higher summer an spring temperature make evaporation more active, and this coupled with a lower precipitation, probably leaves a smaller effective rainfall than the azalea requires.

Temperature and rainfall both are higher in the Illinois Ozarks than in northern Michigan, but evaporation also is higher, which would tend

FIGURE 11. Cave barn near Clarida Branch, Johnson. Animals, buggies, wagons, farm implements are kept under many such sandstone ledges. In many cases this is the farmer's only barn

to equalize the effective rainfall of the two areas. Also, the narrow valleys in the Ozarks sheltered by cool, moist sandstone cliffs are cooler than the uplands, and it is in such places that the lycopodium has been found. Thus the balance of climatic conditions in such valleys approaches that of northern Michigan.

Another element in the presence of northern relics probably was the influence of the cold climate succeeding the Ice Age. Northern plants migrated southward in front of the advancing ice sheet, and the nor thern plants in southern Illinois are those which have adapted themselves to the lesser cold of the present era. Relics of the successive vegetations following the Pleistocene Period still remain in the region. It is possible that the present vegetation may not be the final stage, for

there is evidence, especially on some of the rock areas, of the dynamism of succession of plant associations.

The cypress and tupelo belong to the plant association of the moist coastal plain. The rainfall at Cairo and along the Ohio River (41 to 43 inches) is higher than back in the hills, where it is only 36 inches. The distribution thruout the year, however, is about the same in these two portions of the region, the season of lowest precipitation being August, September, and October. The annual temperature within the hills and along the coastal plain bottom lands of Illinois is

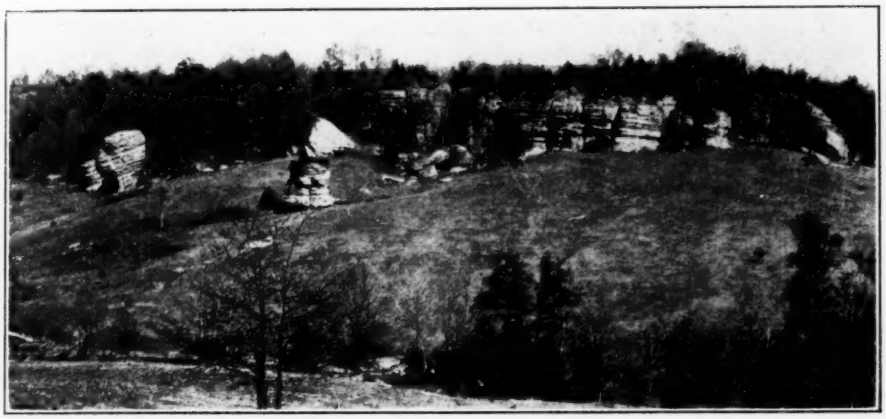

FIGURE 12. Rocky Hillside at head of Clarida Branch, Johnson County

about the same (57°F.) and has, in general, the same range. Consequently the effective rainfall in the lowlands, left by evaporation, is higher than farther back in the uplands, and practically approximates that on the Gulf Coast where the rainfall is greater, but temperature higher, and therefore evaporation greater. Furthermore, the flat bottoms along the Ohio River and its tributaries in southern Illinois provide the same swampy conditions as exist in the habitat of the cypress and tupelo farther south.

THE BOATS IN SAN FRANCISCO HARBOR

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INTRODUCING THE PROJECT

This project was carried on in the Play School at the University of California this past summer with a group of ten and eleven year old children. We chose for our subject a study of the boats in San Francisco harbor for these reasons, which usually determine the choice of such projects: it was known to be within the children's interests; it is an important subject in that body of knowledge which we have found valuable for use; and it offers opportunity for personal investigation. In the case of this project, moreover, the great changes in commercial relationships necessitate, with both children and grownups, a careful weighing of the information already possessed and the bringing to consciousness of the fact that conditions vary almost from day to day. The work was begun by telling a story of a visit to a ship in process of unloading in the Seattle harbor. This brought about the informal relation of similar experiences by the children and aroused unusual interest so that they accepted the project as their own.

FORMULATING PROBLEMS AND COLLECTING DATA

It was suggested that they formulate a list of questions stating what they would like to find out about these ships. Almost every relationship involved in the situation was suggested by them. Among the questions were the following: Where did the boats come from? Where are they going? What did they bring to San Francisco? What will they carry away? From what part of our country does their export load come? Does California provide all the goods that are shipped out of San Francisco harbor? Were these ships built in this country? How can the people from whom we receive products like rubber, coffee, sugar, etc., produce them in their countries? How is the unloading of ships accomplished? Do the cargoes remain in San Francisco or are they sent on to other sections? From what sources can we obtain information in regard to these various questions?

With these questions formulated, we began to look about for answers to them and found many different sources of information. Bulletins from the Chamber of Commerce proved valuable. In these

we found the history of the development of the port, the latest data in regard to the exports and imports, and interesting notes on changes in regard to certain products due to the war. In considering each question, an effort was made to have the children get as much of the information as possible for themselves, and then to recognize the value of printed material which would confirm or cause them to question their own inferences. One important fact developed was that data are constantly changing, that geographies must always be examined in the light of the date at which they were published, that the supplement may disclose an entire change of conditions, and that the latest and most accurate statement of facts must always be obtained. Reference books from the Public Library gave much useful material. These were investigated as regards the time of their publication, and statements made in those of earlier publications were compared with the latest authority. In studying the exports, the Chamber of Commercel ists were approached first with the general information a ready possessed by the children, the text was next used to verify the opinion stated, and the reasons for the differences between the statements of the geography and data obtained from the Chamber of Commerce bulletins were worked out, if possible. Other materials brought in by the children were bulletins from the California Improvement Society, statements from the big steamship companies, newspaper clippings and articles from the *Literary Digest* and similar magazines. Geographical magazines were found of very great assistance. An effort was made thruout the investigation to keep the children in a questioning, open-minded attitude.

A list of the consuls having offices in San Francisco suggested interesting observation and study. The mere fact that the list was so long, one of the children said, gave an idea of the importance of the port. Letters were written to these different consuls asking for information regarding our subject of study; these were read and criticised in class, and because of the lack of equipment copied in ink outside the period. The children received interesting responses to their letters. They were a bit critical of the answers and appreciated thoroly those in which the writer took pains to give details or to send pamphlets which would really help in solving the problem undertaken. These pamphlets were examined by the children, who selected, sometimes with the help of the leaders, portions which they read or told to the group. Many of the parents became interested; one little girl was taken to call upon the Turkish consul by her father and presented a report of their conversation regarding the pre-war conditions of the

relationship between the United States and Turkey. One of the questions proposed by the children concerned the history of San Francisco Bay. This the teacher gave as one of her contributions to the study, showing in connection with it a copy of the painting of the bay by Griffith. The children were told where they could buy a small reproduction. It was found that one of the children in the group knew the artist and had seen the original. Several of the children in the class had traveled extensively, and an effort was made to make use of any experiences that they had had that would be helpful to the rest.

SOLVING THE PROBLEM

In making a study of the question as to how these various foreign countries could supply to us the imports received from them, the children were assigned, or chose, topics similar to the following: "How My Mother Got Her Cup of Coffee." "How Can Johnny Have a Pair of Rubber Boots?" "Where Did Our Tapioca Pudding Come From?" "The Story in a Cake of Soap." These stories were to include (according to an outline formulated by the children) all the geographical reasons for their production in the country from which they came and the story of their route in reaching us. This was proposed with the idea that the story should be told to children in some of the younger groups after being criticised by the class. Each story was to be illustrated in so far as possible with specimens of the product and pictures of the process of growing.

These individual projects gave rise to much reading in the reference books supplied, visits to the library, studying the collection of pictures, and much searching of their own textbook for information. In all this work, the careful weighing of material read to determine its worth and the questioning of the educational value of a picture aside from its mere attractiveness were constantly kept in mind. One small boy said before school that his mother would go to the library with him but she wanted him to know exactly what he was looking for and to have ready the questions to which he wished to find answers. The leader suggested that he prepare his questions and present them to his class to have them decide whether the answers to his questions would give a complete story of his topic, from the geographical point of view. He did this and came back the next day with the information, somewhat surprising to all of us, that California had been experimenting with the growth of manioc and that it promised to become one of the food products of California. The amount of outside investigation that the project led to is suggested by another incident with this same

boy. He rushed in, waving a small pamphlet containing pictures of the manioc plant in its native surroundings. He explained that seeing this in the hands of a neighbor boy, he had inquired where he got it and had then gone over to the boy's house and asked his mother for this booklet, which was to him a real treasure.

Many of the children completed their stories; several told them to younger groups; some did a great deal of reading but never got to the point of organizing their material sufficiently well to present it in good shape before the class. (The limitation of time, for one hour a day was the only time when the leader could meet the group, led to the unsatisfactory state of not being able always to round out different phases of the study.) In summing up the work, the charts made for the lists of exports and imports were much enjoyed in the making and apparently led to closer observation on the part of the children. For instance, in working on rubber, we pasted at the top of the sheet the data received from the Chamber of Commerce regarding its import, then found pictures illustrating as much of its production as was possible. A magazine gave us a picture of a native tapping the tree, and in connection with this the chart showed the usual and more unusual articles manufactured from rubber. The chart on cocoanut gave a wider knowledge of the many different articles in the production of which the cocoanut is used.

THE CHILD'S RESPONSE

The question of social discipline was kept in mind by the leader. An effort was made to preserve as informal an atmosphere as possible with courtesy to each other and to the teacher, and with careful attention to the type of thinking carried on in the group. The children formulated their own suggestions as to the matter of interrupting each other, side conversations, etc. The talk often grew very enthusiastic, and it was sometimes necessary for the teacher to remind them of their own standards in regard to these matters. In a few cases, individual children who wished to occupy the floor all the time required a private discussion as to the necessity for their showing consideration of other people. Children who made week-end trips often brought back contributions to the solution of our problem. Whenever they had experiences to relate, an effort was made to have them evaluate these from the standpoint of their project. We felt perfectly easy, however, in relaxing our critical point of view when a child said, "I have something that I think is really interesting to tell. It's really geographical but not related to our subject: but I want to talk about it anyhow."

Amusing illustrations of the spontaneous outpouring which may result in a group of this kind were afforded by some children. In the group was a little girl from Kansas City who talked of her home town too much to suit some of the Californians. On one occasion, during the study of Van Dyke's "California," as an expression of admiration for the natural advantages of California, the girl from Kansas City began to tell of a poem on Missouri which she had read. Whereupon one small boy, quite without premeditation, began to improvise a poem "Missouri" which was not at all complimentary. The amusement which the grown-ups were unable to conceal sent him back to his seat in a somewhat confused state, and left the little girl very indignant but perhaps a bit more reserved.

In several instances children engaged on drawings for their stories or reading for their topics asked to be excused from the playground so that they might go on with their work and as we got more deeply into our problem our hour was generally too short. The beginning of each new period was hailed with suggestions of things that the children would like to do.

In an analysis of the project from the point of view of the traditional subjects, we found that the project offered almost unlimited opportunities for purposeful reading; that the language work included the making of lists and the giving of many talks. The material could have been used for many problems in arithmetic, had time offered for the development of that subject. One of the last pieces of work was the starting of a book to hold a collection of post cards and other pictures to illustrate the study. Several of the children's parents took them on trips to San Francisco in order that they might have a larger collection of cards from which to choose. One boy reported on a trip around the bay, which his mother took for his special benefit because of his interest in the study.

SUMMARY

A statement of the study from the standpoint of children's activities gave the following list:

1. Formulating questions for the study
2. Formulating questions for particular parts of the study which they wished to present at the library or to people from whom they asked information
3. Writing letters involving the questions
4. Reading the material received, answering the letters, and presenting to the class the information derived from the pamphlets

5. Gaining more experience in the use of an index to find desired material

6. Visiting exhibits in the Ferry Building to secure information

7. Collecting useful material on week-end trips as auto maps, circulars, and newspaper clippings

8. Studying the textbook in the effort to answer their questions

9. Comparing textbook data with the latest facts

10. Hunting through magazines for articles and pictures on the subject of the study

11. Collecting post cards

The teacher's activities might be listed as follows:

1. Making a choice of the project based on her knowledge of the interest of children under similar conditions

2. Introducing the project to the children thru the telling of a story of her seeing a boat unloaded in Seattle

3. Collecting as great a wealth as possible of up-to-date information in regard to the topic of study

4. Selecting reference books which would be helpful

5. Deciding on how the text book might be most profitably used as a means of supplementing the result of personal investigation

6. Organizing the subject matter carefully for her own use so that, as topics were brought up thru the class discussion, she might be prepared to help the children in their better organization

7. Reflecting after every period on the work of the preceding hour and the type of thinking involved

8. Planning questions which would bring out certain points omitted in the children's discussions

9. Supplying illustrative material which the children were not able to obtain.

At the close of the work, the children took home with them the books which they had started, with the idea that they should continue their search for pictures illustrating their study. Each child was given a list of "Stories of the Sea," which would provide pleasure reading during the rest of his summer.

ECONOMIC OPPORTUNITIES IN THE SOUTHERN APPALACHIANS*

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By the Southern Appalachians we mean that plateau-like group of mountains which occupies the region in North and South Carolina, southern Virginia, Tennessee, and Georgia, between the Piedmont Plateau on the south-east and the Great Valley on the north-west, forming the southeastern portion of the great Appalachian Highlands.

This plateau-like section is neither exceptionally high nor rugged, but it does possess these characteristics in sufficient degree to form a strong contrast to the other mountains in eastern North America, being more truly mountainous than any part of the country east of the Rockies. The average elevation is about three thousand feet, and resting on it are numerous cross chains, some of which rise three thousand feet above the plateau, as in the case of Mt. Mitchell, which is 6711 feet. These cross chains are at places broken down but there are few broad well defined valleys, the country being occupied by irregular ranges separated by narrow valleys and deep gorges. Wide accessible valleys where large agricultural communities might have developed and have kept pace with the outside, are almost entirely lacking. Instead there are only small basins and coves where the little settlements are found, isolated from the rest of the world by the mountain walls that shut them in on all sides.

Over most of the Southern Appalachians, the rocks are crystaline; chiefly gneisses, schists, granites, and quartzites which break down into stiff red clays that with care make good agricultural soils. On the eastern and western border of the region, approximately along the line of the Blue Ridge and Unakas, are two belts of metamorphosed sedimentary rock. The soils resulting from the decomposition of these rocks are sandy with a yellowish clay subsoil and are rather less suitable for agriculture than the clay soils of the older areas, tho they seem to favor a heavier growth of timber.[1] Erosion has gone on actively in these mountains and, where deforestation has taken place,

*This paper is an abstract of a portion of a master's thesis on "The Geography of the Southern Appalachians" prepared at Geo. Peabody College for Teachers, Nashville, Tenn.

[1] Holmes: Forest Conditions in Western North Carolina, p. 12.

many of the hillsides are washed almost bare and the good soil is found mostly in the coves and bottom lands along the creeks.

It is in these basins and coves that the people of the region are chiefly found and it is thru these that the development of the region must largely proceed. Since the total area of the basin and valley land is small, the population is small and as scattered as the relatively flat lands they occupy. The only city of any size in the entire area is Asheville. Less than one fourth of the tract is under cultivation of any kind,[2] and it is doubted whether even this much of the land should be stripped of its timber.

NATURAL RESOURCES OF THE SOUTHERN APPALACHIANS

With seventy-six per cent of the area in forest, the Southern Appalachian system is essentially a timber producing section. Except in a few scattered areas there is not enough level land and thick fertile soil for agriculture to ever become an important money industry. Live-stock raising is limited by the lack of sufficient pasturage for large herds, tho dairying is looked to as a promising industry for the future. And tho the variety of mineral products is great, none of the more valuable ones are in sufficient quantities to justify an assumption that this section will ever develop primarily thru its mines.

MINERALS AND MINING

The fact that mining has never played a more important part in the industrial growth of the Southern Appalachians, has been partly due to the isolation of the region, but chiefly to the fact that the more valuable and less bulky minerals are, as a rule, not in sufficiently large quantities to attract the capital necessary for their extraction, and transportation facilities are inadequate for the profitable mining of the more numerous and less valuable minerals. Altho gold, silver, iron, nickel, tin, and precious stones have all been mined to some extent, the only mines that have proved of great value, up to the present time, are the famous copper mines at Ducktown, Tennessee, and to a less extent the mica and corundum mines of North Carolina. The greater part of the United States' supply of these latter two minerals comes from North Carolina. Other than these, the greatest future source of wealth from the mineral resources of these mountains seems at present to lie in the development of the

[2] Bowman: Forest Physiography, p. 160.

quarries. The rocks are rich in building stones, that, as the forest resources of the country are exhausted and large cities giving a nearby market develop thruout the South, will likely prove of considerable value whenever the quarries are made accessible.

Forestry

It is, therefore, to the timber resources that the development of the Southern Appalachians must primarily look. It is here that their chief source of cash income is to be supplied, and it is money that they need for the building of the roads, the advancement of education, and general progress of every kind.

The soil and climate of the Southern Appalachians seem remarkably adapted to the growth of timber. The original forest, as indicated by the remaining virgin tracts and by the accounts of old settlers and early explorers, was wonderful in the extent, density, size, and quality of its timber trees and the variety of their species. This great variety of species is due to the many different elevations and their resulting varieties of temperature. On the low elevations of the southern slopes, are such trees as the magnolia, mulberry, pawpaw, and persimmon, while in the cooler temperatures of the high ridges are found red and black spruce, northern birch, white pine, and fir of the Maine forest for the Appalachian Highlands carry the trees of New England far into the South.[3] However, the principal cover of the whole region is the hard-wood forests, of which chestnuts and oaks are the more important types.

Interest in this great forest is heightened by the fact that it contains one of the largest bodies of fine timber to be found on the Atlantic slope of the country, and it is of supreme interest to the eastern forester who sees in it one of the greatest forest possibilities in the country. In this great forest there are 4,100,856 acres of wood-land, 10,024,963 M feet board-measure of log timber above four inches in diameter and 69,038,817 cords of small wood.[4] Nearly the whole area was once heavily forested and owing to its inaccessibility has long been spared, but since the forests of the North and Middle West have been denuded the lumbermen have turned their attention to the Southern Appalachians and the vast forests are now rapidly disappearing. This is causing great damage, not only by the wash of the bared hillsides,

[3] Bowman: Forest Physiography, p. 606.

[4] Ayres and Ashe: Southern Appalachian Forests, p. 23.

but by the increase in floods, the deposition of material on the lowlands, and the silting up of the streams.

The U. S. Government is making an effort to check such damage by establishing national forests thru the section in areas that control the headwaters of streams, and by putting still other areas under government protection, under the provisions of the Week's Bill.

The future prosperity of the region seems now to depend largely on the success of the management of the forest. Its object is to make the land continuously produce, at the least cost, the largest amount of the most valuable forest products which it is capable of producing. To do this it is necessary to secure a full stand of the most valuable species best suited to a particular area, and to keep them growing as rapidly as possible. Reforestation is being widely advocated in this region, tho the only species that are being generally recommended for propagation by sowing are nut-bearing trees. However, the remarkable reproductive power of this forest, which is greater than in any other region of the eastern or northern states, will enable the forest owner to secure a valuable stand without much planting and judicious cutting will in most cases be sufficient to keep a continuous supply on hand.[5]

TIMBER INDUSTRIES

Due to the poor transportation facilities in the mountains, it is impossible at present to make the best possible use of the timber, tho it is gratifying to know that conditions are improving all the time. Several standard-gauge railroads now cross the region and are the principal means of carrying the lumber to markets.

Practically all the timber cut in western North Carolina, and this includes the greater portion of the Southern Appalachian region, is sawed or otherwise manufactured in that part of the state. Little is shipped out in the log. This gives occupation to a large number of people and, except for agriculture, is by far the most important industry. Two-fifths of all the timber cut for sale is manufactured into lumber, but the greater portion of this is shipped out of the region.[6]

One of the most important cash incomes of the mountains at present is from the gathering of tan bark. Five large tanneries, at Andrews, Sylva, Hazelwood, Asheville and Rossman, North Carolina, are now in operation west of the Blue Ridge. Most of the bark is

[5] Holmes: Forest Conditions in Western North Carolina, p. 14.

[6] *Ibid.*, p. 60.

cut and marketed by farmers, who peel the bark in the spring and allow it to dry all summer so that it will be light for hauling in the fall after the crops are laid by. This is bound to be a declining industry with the exhaustion of the mature timber, for chestnut and hemlock grow slowly and the bark of young trees is comparatively thin.[7]

In the last few years, several factories have been put up for the manufacture of tannic acid extract. There are now four or five of these factories in operation, chiefly in connection with tanneries, at Andrews, Canton, Pisgah Forest, Asheville and another at Old Fort, just outside of the mountains, which uses the material from this region. The value of this industry, not only to the people, but to the forest, is not fully realized. The greater part of the chestnut wood is over-mature, and deteriorating in quality the longer it is left standing the greater the loss. The tanning industry utilizes this otherwise wasted material. This means that land now covered with such trees can be utilized and made to grow new and better crops of chestnut, while occupation is given to large numbers of people and capital is brought into the region from the outside.[8]

Small amounts of wood, chiefly poplar and lynn, have been cut and shipped from the Southern Appalachians to pulp mills for a good many years. About 1907 the Champion Fiber Company of Canton, North Carolina, began buying wood, and the industry became important. Five different classes of wood are used by this factory; chestnut, spruce, hemlock, poplar and pine, all of them being manufactured into the better quality of magazine paper, while the screenings and other waste are made into coarse, heavy wrapping paper.[9]

These constitute the chief timber industries at present and pulp and extract mills, together with saw mills, seem to offer the greatest opportunities for the development of the region. However, there are several minor timber industries that are of sufficient local importance to merit mention, among these are the manufacture of handles and ties, the cutting of poles, the making of locust insulator pins, and the cutting of shingles. These are cut almost entirely for local consumption because of the high cost of getting them to an outside market due to poor transportation facilities.[10]

[7] Holmes: Forest Conditions in Western North Carolina, p. 70.
[8] *Ibid.*, p. 64.
[9] *Ibid.*, p. 65.
[10] *Ibid.*, pp. 72-74.

For tho it is thru the utilization of forest resources that the advancement of the Southern Appalachians must come, these resources can never be fully developed until better roads are built and more railroads come into the mountains. In fact the development of the region seems to work in a circle, the accessible timber of the region bringing in money for the building of better roads and other improvements, and better roads making possible the getting out of more timber and the bringing of more money into the mountains. So that as roads and railroads are built the mountaineers will gain a market, timber growing become profitable, and a larger and more prosperous population can be supported.

AGRICULTURE

As has been pointed out before, agriculture is not, and likely will never be, the predominant money industry of the Southern Appalachians. The grain fields are always small and scattered, limited by the distribution and amount of level land, the degree of the slope, and the liability of wash. Cotton is not to be considered except in a few very limited areas, nor has tobacco proved widely profitable in recent years. But where transportation facilities develop there are good opportunities for growing certain fruits and vegetables on a commercial scale. There is nearly always enough land for crops of this sort, and the climate is very favorable to their growth, especially on the southern slopes where the large angle of the sun's rays gives high temperatures. The frostless belt is exceedingly good for fruit. Apples thrive especially well and in recent years much is being said of the opportunities for apple orchards in the mountains. In 1910, 1,799,991 bushels were grown in the sixteen mountain counties of North Carolina,[11] and this was, as a whole, under very unfavorable conditions, for the mountain farmer is no horticulturist; he lets his fruit trees take care of themselves and so, except on a few select farms near the towns, the trees are old and unpruned and bristling with shoots. But when transportation facilities make markets available and with a little training in scientific methods of pruning and spraying, this could easily become one of the great apple producing sections of the country.

LIVE STOCK RAISING

The mountains are very well adapted to certain types of stock raising. On most of the farms the acreage of tillable land is small

[11] U. S. Census Rept., 1910, Vol. VII, p. 256.

and many larger areas of rough and stony land are kept in permanent pasture. In a few favored localities good beef cattle are found, but ordinarily the cattle are of mixed breeds, including many small and inferior types. But even where an inferior breed of cattle is kept, conditions are better than where crops alone are grown, for the cattle conserve the fertility of the soil. Goats are especially well adapted to such a region as this but so far they are little known to the Appalachian farmers. Of all types of live stock that are now being grown in the mountains, sheep thrive best. However, at present little progress is being made in sheep raising. One of the great advantages of sheep raising in a region where transportation is so difficult is that they can be sent to market without much suffering and loss. If hogs are fattened they can only be driven a short distance over the bad roads. The result is that only the razor-backs for home use are extensively grown, these at present feeding for the most part on the mast of the forests.

In 1915 the government began establishing co-operative cheese factories thruout the mountains, and by their success they are proving how well adapted this type of the dairying industry is to the region.

In 1917, more than $125,000 worth of cheese was made in the thirty-four factories now in operation in the mountain counties of North Carolina. Discounting cost of manufacture and the amount the farmers would likely have secured for their milk, about three fourths, or $90,000 of this is newly created wealth for these people.

The effect of the increased income from the mountain farms in the communities where the cheese factories are in operation is already shown in a higher standard of living. Farm houses are being remodeled, better farm equipment is being introduced, road improvements have begun in many sections, more interest is being taken in educational work of all kinds. Cheese factories are only the first step forward, but they furnish the financial support for the movement that is slowly but steadily transforming many isolated mountain districts into prosperous farming communities, by carrying on the kind of industries that are especially suited to the peculiar environment of the mountaineers, rather than trying to conform to the agricultural practices of the lowland farmer.[12]

MANUFACTURING

At present, practically the only manufacturing industries are those previously mentioned in connection with the timber industry.

[12] Doone: Cheese Making Brings Prosperity. Agricultural Year Book, 1917.

And it is not likely that manufacturing will ever be extensively carried on in this area for the mountains are not adapted to support sufficient population to cause it to reach that stage of industrial development and the ruggedness of the topography discourages the development of extensive transportation lines.

This section has one great natural advantage, however, that may overbalance its other disadvantages in attracting manufactures into the region. This lies in its enormous available supply of waterpower. It is estimated that one million horsepower could be developed on the principal streams, which at the present time is largely unused, due to the sparse population.[13]

CLIMATE AND SCENERY

In recent years a new and growing industry has developed. As railroads have begun to penetrate the region, people from all over the country are beginning to discover and appreciate the excellent climate and magnificent scenery of these mountains. It is very likely that the Southern Appalachians are more widely known for their climate and scenery than for any other of their natural advantages. Thousands of health and pleasure seekers come each winter to this "Land of the Sky" to escape the cold of the northern and eastern states and tens of thousands flock in each summer from the South.

The entertainment of these summer and winter visitors forms a most important and promising industry, causing a large demand for vegetables, fruits, dairy products, eggs and poultry, and giving a ready market and source of revenue to the people. Each year these tourists bring from two and a half to three million dollars into the mountains,[14] and with the conservation of the forests, the improvement of the roads, and the extension of the railroads the attractiveness as well as the accessibility of the section will be greatly enhanced, and the number of visitors will certainly steadily increase.

In fact with its wonderful climate and remarkable beauty of scenery there seems no reason why this region should not occupy a position in America almost analogous to that of Switzerland in Europe. Until the people of the Southern Appalachians learn from such countries as Switzerland and Corsica that there are certain industries, as forestry, nut-growing, and dairying, that are especially adapted to a mountain environment, and that the agricultural practices of the

[13] Bowman: Forest Physiography, p. 611.

[14] Holmes, Forest Conditions in Western North Carolina, p. 11.

lowland farmer can never be made to pay on the hillside farms, it will be very hard for this section to ever progress beyond its present stage of industrial development.

From what has been said it can be easily seen that the future development of the Southern Appalachians must depend on the introduction of typical mountain industries, the extension of the railroads, and the building of good wagon roads thruout the mountains. In some sections, as around Asheville and Waynesville, many splendid roads have already been built and the railroad facilities are adequate, but over a large part of the region the roads are as James Lane Allen describes them, with their "sloughs, and sands, mud and holes, and jutting ledges of rock and loose boulders, and twists and turns, and general total depravity."[15] It is only when roads such as those around Asheville are built thruout the whole area that the people of the Southern Appalachians can ever overcome the effects of their present isolation and take their place in the progressive march of the nation.

[15] Kephart: Our Southern Highlanders, p. 22.

A METHOD OF TEACHING MAP GEOGRAPHY

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INTRODUCTION

Map geography, as understood in this title and in this paper, means what is commonly known as locational geography. This is a subject which is admittedly difficult to teach and the difficulty arises out of the fact that it is impossible to distinguish between a knowledge that suffices for school purposes, a verbal knowledge that enables one to answer typical questions, and an accurate visualization of the world of such a character that one's knowledge of locational geography is actually usable.

This point is difficult to make clear and illustrations may perchance help to bring out the distinction aimed at. It is possible that a child may memorize a poem without understanding the content. In that case the child might be able to recite the poem but not understand it. In other words it is possible when we think that the child has accomplished some work in map geography that he has a verbal instead of a visual, usable image of the world. From this point of view it is possible that a child may be able to respond to questions regarding locations and yet not be master of the situation. In order to determine whether our product is mere word images such as a blind man might have about a beautiful landscape or an actual, usable concept of the world, it is necessary to devise a new type of question, ingeniously constructed so that no amount of memorizing would enable the pupil to give the correct response, unless he has actually in his mind's eye a definite knowledge of the world. Visualization such as is here referred to enables the pupil to describe or define or give the location, but the fact that the pupil gives a description is not necessarily an indication that he visualizes. He may be giving back the result of memory work.

This paper is concerned with a series of devices for the teaching of map geography, having as their aim, goal and purpose the giving to the pupil of visual images of such a character that they will always be usable whether for the purpose of later studies in descriptive geography, of work in history, of following current events or any other connection in which a real comprehensive knowledge of map geography may be of use.

It might be well to note in the beginning that:

(1) This is not a complete course in map geography, a detailed outline of the field, or a series of systematic drills. It is not intended that a perusal of this paper alone shall enable the teacher to handle the subject under discussion. The intention is to indicate merely such features as are considered new and may be used supplementary to any other method. Detailed application and development are left to the teacher.

(2) It is not intended to advance any theory as to the age or grade at which map geography should be taught, nor is any opinion expressed or implied as to whether this work should be given quite by itself or whether it should be accompanied by, preceded by, or followed by work in descriptive geography.

(3) The materials here used are of such a character that they can be made by any teacher anywhere. Undoubtedly, they can be improved and perfected, but the lack of these materials or the difficulty in securing them cannot be properly used as a reason for not attempting the method.

(4) Some of the advantages which it is felt are inherent in this method are: the child may do individual work at his desk; the work is enlivened by the opportunity to handle materials and by the puzzle element which enters in at times; this work will attract the child as it lacks some of the disadvantages of mere drill on maps which soon tires.

(5) No claim is made that the method here described is perfect or final. It will be noted thruout the paper that there is ample room for improvement and further experiment.

WHAT WE TEACH

From our point of view locations are of two sorts: general locations of such a character that a knowledge of them is necessary in order to give a frame-work to the globe or map as a whole; specific locations filled into this frame-work. The matter of specific locations is quite unsettled and the number of such locations may be left entirely to the opinion of the particular teacher. In the matter of general locations the writer does not care to be dogmatic. Lists of such locations as everyone ought to be familiar with abound in the literature of geography teaching and none such will be given here. The general locations referred to will be merely useful in describing the method and will not indicate all of the locations which ought to be

used. It does not seem that the time has arrived for final opinions in this matter.

THE GLOBE

We begin our work with the globe and it is most desirable that each child shall have in his hands a small globe of his own. We have on the walls maps of the continents and we commence by giving the child the usual information suitable, at his age and grade, regarding the earth. We point out the continents, relating them to the wall maps. We lead the child to realize that the wall maps are untrue in that they are flat. We then induce the child to locate various places on the globe and convey the idea of the roundness of the earth by asking him to show how he may go from one place to another by starting in various directions.

We now present the child with the two halves—one half at a time—of a solid sphere cut at the equator into the northern and southern hemispheres. Our object in presenting these hemispheres is to enable the child to concentrate attention on one section of the earth at a time and yet to give him the correct idea of roundness. It would assist the reader in better grasping what follows to take a globe and cover the part not actually under discussion so as to secure the approximate conditions under which this work goes forward. With the two hemispheres before him on the desk, poles turned up, the child has an absolute visual picture of these divisions of the earth. He realizes without being given any information whatever that the major part of the world's land is in the northern hemisphere; that the southern hemisphere is almost all water; that south of the equator there are parts of South America, Africa, and the entire continent of Australia.

We also indicate on the southern hemisphere the East Indies. We lead the child to discover by observation the southernmost point of land in this hemisphere and then indicate the relation of Cape Horn to the Cape of Good Hope. The study of the above work will be best understood if the reader will take a globe and cover the northern or southern hemisphere, as the case may be, in order to realize the position of the child, when certain features are brought to his attention.

Our next point in this course is to present to the child a globe cut into three sections, by making two cuts respectively at the Tropic of Cancer and the Tropic of Capricorn. Having this before him, the child may see the southernmost cut from which he realizes that while

this portion is almost entirely water, it yet contains points of land representing three continents. We lead him to reflections regarding climatic conditions in this section of the earth's surface. We next present the northern cut and lead the child to learn by observation and actual visualization that it contains nearly all of the land and that necessarily it is north of the Tropic of Cancer that the world's civilization has its being. Where the age is suitable we aid the child in realizing that practically all of the earth's recorded history has been enacted on this section of the earth's surface. We indicate the fact that the entire continent of Europe is found north of the Tropic of Cancer and we lead the child to realize that most of North America is to be found in this section. Having just this northern cut before him, we lead the child to make the observation that northern Africa is in this section and that it is closely related to a part of Europe. When the child is old enough we intimate the political significance of this statement and its relation to the past.

We hope to impress a vivid image of the Strait of Gibraltar, its possible meaning in world affairs as well as the rôle which it has played in the past. The same observation applies to the Suez Canal.

We now take the torrid zone and without the distraction of the earth's surface either north or south of the tropics, the child is in a position to revolve this in his hands and secure a direct visual image of this zone. In studying the globe, we have indicated in a general way the climatic significance of location on various parts of the earth so that the child is now in a position to secure a picture of the hot part of the globe. We again indicate, or induce the child to find out for himself that the major part of Africa is in this zone, that parts of Central and South America are in it. He sees the position of the East Indies and the hot parts of Australia and Asia. It is hoped that this mental image of sections of the earth's surface in relation to the equator will remain with the child when he reads history and descriptive geography or books of travel.

The next material presented to the child is a globe cut into parts in such a way that it is somewhat difficult to put them together without a thoro knowledge of the relations and locations of the various continents. A description of cuts made will not be given here because we do not consider that the cuts we have made and which are used in the San Francisco Normal School are final or as good as can be made.

Finally, we present the globe cut into eastern and western hemispheres. We have not found that this cut is very useful in instruction on the globe itself. But it is of some use in an explanation of the Mer-

cator Projection where the teacher desires to dwell on this map. In this connection this cut of the globe will be taken up again.

Before leaving the question of the globe, it is well to indicate that since we study the globe without interest in specific locations it may be desirable actually to paint out all details, leaving simply continents and bodies of water. Altho that is what we have done in our instruction we are not ready to assert that this is the most desirable method. It should also be mentioned that in going over the globe we take up a number of things not mentioned in detail here as, for example, direction, the zones, the position of the earth in relation to the sun, etc.

THE MERCATOR MAP

The writer is not in a position to discuss with any finality the amount of attention that should be given to this map and it is quite possible that the work should vary with the grades in which it is attempted. In our school it has been found to have some grave difficulties in that it tends to give the child a sense of flatness of the entire world in spite of all the work done with the globe, so that in traveling from one place to another on the earth's surface after having worked with the Mercator map, he will sometimes go the longest way around, if that is the way to go on the particular projection he has been studying, quite forgetting what the projection really is.

With this qualification we will indicate the device that we have used in teaching the Mercator map. We use a blue cardboard which may be called a base. This is a large area ruled to indicate the equator, tropics and the arctic circles. With this on the desk (water) we give the child continents and parts of continents cut out of pink cardboard which he is required to place on the base correctly. It will be noted that the idea is to establish firmly in the mind of the child the location of large land masses with regard to the equator, zones, circles, as well as with regard to the relations of the continents to one another. This, like the work with the globe is not a test, but a method of self-instruction. The child begins this work with a map before him.

It is in connection with this Mercator map and in our effort to explain how it is that we can show a round earth on a flat surface that we find our cuts of the eastern and western hemispheres, previously referred to, of use. Placing these hemispheres before the child, the east to the right and the west to the left, we ask him to imagine them flattened down and out on the table before him. Further illustration is unnecessary. The teacher who will imagine the situation will see for himself what is it that we hope to accomplish.

The Continents

We now proceed continent by continent, doing work with regular maps, wall maps, or maps in textbooks and special work with our material.

After taking up a continent we indicate first its flatness by reference to the globe, then its general contour and special features which will stamp it as a visual image, then the political divisions and such other specific locations as we deem necessary.

For the special work we again have a base, with the equator, tropics and arctic circles drawn thereon—we do not use any meridians or other parallels although we have no dogma as to whether or not these should be used. We now give the child the continent cut up from red cardboard. This point should again be made clear: It is not a method of finding out what the child can do but a method of teaching the child the relations of continents and their various subdivisions. The continent is not cut up necessarily along the lines of political divisions; the parts are not marked to give the child any hint; most important of all is the fact that the cardboard being the same color on both sides may be laid on the desk wrong side up, and this adds very greatly to the difficulty of the task in hand. In this process of teaching a given continent the child, of course, has before him a general map when he begins his work.

Note:—The making of the apparatus used subsequent to the work with the globe is indicated by the text itself. All that is needed to make it is cardboard of two colors—one of these preferably blue—and a pair of scissors. For our globes we proceed in the following manner: the ordinary small globe is made of cardboard with a rod running thru the po'es and resting on a stand. There are any number of ways of removing the rod, but we find that the swiftest and simplest way is to apply intense heat to the tip, such as we get from a bunsen burner, which melts it rapidly and enables us to withdraw the rod. We now fill these globes with common paraffin which we melt until it is liquid and then allow to cool in the globes. When the paraffin is cooled we make the desired cuts with the thinnest saw available. These cuts can be made under the teacher's direction by almost anyone in the neighborhood of the school.

ANNUAL MEETING OF THE NATIONAL COUNCIL OF GEOGRAPHY TEACHERS

The annual meeting of the National Council of Geography Teachers was held at the University of Chicago, December 29, 1920. Approximately one hundred fifty interested geography teachers attended the sessions, representing some twenty-five or thirty states. Members came from nearly all parts of the United States—from North, South, East and West. Many traveled long distances, California, Massachusetts and Connecticut being well represented.

Enthusiasm prevailed thruout the sessions; each subject on the program (see November, 1920 *Journal*) was thoroly discussed and plans were made for solving in a constructive manner some of the perplexing problems of geography teaching. The present problems were analyzed and numerous plans for increasing the efficiency of geography teaching were presented. There was a strong feeling that the National Council, with the *Journal* as a medium, was now in a position to attack these problems with an efficiency that augured success. It was believed that definite constructive work along the lines which will materially aid geography and geography teaching to command respect, and which will be of assistance to school officials, should be undertaken at once.

STANDARD COURSE OF STUDY

The question of whether "it is possible for the National Council to attempt the preparation of a standard course of study" was thoroly discussed and brought out a striking unanimity of opinion. Every speaker believed that the National Council could do a very constructive piece of work along this line. The opinion prevailed that it was possible to prepare a course of study which would set forth the fundamental principles of geography teaching and yet be flexible enough to meet the needs of every section of the country. It was held that the great good of such a course lay in its suggestive value to the thousands of schools that did not now have geography specialists in their teaching corps; that it would set forth a conception of what elementary school geography should contain, and what its teaching should accomplish. The size of the task was fully appreciated but it was considered a task well worth doing. To accomplish this purpose a committee consisting of Burton A. Barns, Supervisor of Geography, Detroit, Michigan; Erna Grassmuck, State Supervisor of Geography, Harrisburg, Pennsyl-

vania; Fred K. Branom, Chicago Normal College, Chicago, Illinois; W. O. Blanchard, University of Wisconsin, Madison, Wisconsin, was appointed to study the "Status of geography in the public schools and submit a plan for preparing a standard course of study." The members of this committee are capable and enthusiastic workers and will pursue their study of the problem during the present year and submit a report at the next annual meeting.

NORMAL SCHOOL GEOGRAPHY

A similar unanimity of opinion prevailed during the discussion of whether the "Council should seriously attempt to induce normal schools to (a) secure properly trained teachers in their geography departments, and (b) give adequate attention to geography teaching in their curricula." It was brought out that in at least one of the states where good normal schools and good departments of geography exist forty per cent of the graduates who go out to teach geography have had no preparation. This is due to the fact that the normal schools do not require the students to take a course in geography. If this situation obtains in this particular state the condition in many other states must be little short of appalling. It was agreed that the teaching of geography in the elementary schools could not be materially improved until conditions in normal schools are likewise improved. Methods of accomplishing this purpose were fully discussed and a permanent committee on normal schools consisting of Douglas C. Ridgley, State Normal University, Normal, Illinois, Chairman; R. D. Calkins, State Normal School, Mount Pleasant, Michigan; Annie Weller, State Normal School, Charleston, Illinois; R. M. Brown, College of Education, Providence, Rhode Island, and David Olson, State Normal School, Kent, Ohio, was appointed to study the normal school situation and prepare plans of procedure by which the need for better geography teaching in normal schools can be brought to the attention of school officers. This committee will endeavor to carry on work so as to acquaint superintendents, boards of education, and other school officers with the great need for better facilities for training geography teachers in the various normal schools of our country.

HIGH SCHOOL GEOGRAPHY

Numerous reports were made on the condition of geography in high schools thruout the country, representatives being present from widely separated areas. It appeared that most emphasis in high schools is now being placed on commercial geography especially in

commercial courses. In some states physical geography has been displaced by general science. However, it now seems that the latter is "found wanting" in states where it has been tried extensively and from which reports were available. It was the prevailing opinion that the old type of physical geography will never be revived but that there is a growing demand for a more humanized type of geography to fill the need that general science has not met. Owing to the fact that commercial geography is now demanded by commercial schools and by schools offering a commercial course, the content and the teaching of this subject should receive immediate attention so that a proper geographic viewpoint be given it and it may best serve its purpose. A committee consisting of N. A. Bengtson, University of Nebraska; F. E. Williams, University of Pennsylvania, and Herbert Bassett, State Normal School, Macomb, Illinois, was appointed to prepare a course of study in commercial geography for high schools. This committee will make its report at the next annual meeting.

THE JOURNAL OF GEOGRAPHY

The secretary in his report outlined the history of the gift of the *Journal of Geography* to the National Council, by the American Geographical Society, and of its transfer to the present editorial management and publishers. He brought out the liberal attitude of the publishers toward the *Journal* and toward the National Council; the new responsibility resting upon each member to do his or her utmost toward making the *Journal* a success by supplying high grade manuscript, and by extending the membership of the Council. The personal responsibility of each member in cooperating to make the *Journal of Geography* and the Council still more effective agencies in increasing the efficiency of geography teaching was emphasized. It was pointed out that the National Council in owning its own journal was in a unique position to do effective work—a position occupied by few other organizations in America. The membership of the Council is now nearly 1500 and should be extended to at least 5000 at an early date. This can be accomplished easily if every member will do his or her part. You are urged to secure at least five new members.

The *Journal* needs a large amount of high grade manuscript representing thoro study of academic and of educational subjects, and manuscript dealing with the immediate problems of geography teaching in the grades and high schools. It is highly probable that many important geographic studies have been made and successfully carried out, in the many schools of the country, that would be of great

interest and value to other teachers if such material was placed before them thru the *Journal*. The editors urge that these studies be submitted for their consideration. They desire to have a large amount of material from which to make selections and urge that you submit this material. They advise that you go over such material with care before sending it, assuring yourself that it is in suitable form for publication.

MEETING OF THE BOARD OF DIRECTORS AND EXECUTIVE COMMITTEE

The annual meeting of the Board of Directors and Executive Committee was held December 29, 1920, following the regular afternoon session of the Council. The following members and proxies were present: W. W. Atwood, C. J. Posey, Erna Grassmuck, Jane K. Atwood, Bessie L. Ashton, N. A. Bengtson, R. H. Whitbeck, George J. Miller, A. E. Parkins, R. S. Holway, C. E. Colby.

The following business was transacted.

1. The nominating committee consisting of C. E. Colby, C. J. Posey and Bessie L. Ashton placed in nomination the following members who were duly elected:

President, W. W. Atwood, President Clark University

Vice President, R. S. Holway, University of California

Vice President, R. D. Calkins, State Normal School, Mt. Pleasant, Michigan

Secretary, George J. Miller, State Normal School, Mankato, Minnesota

Treasurer, Douglas C. Ridgley, State Normal University, Normal, Illinois

Members of Executive Committee, terms to expire December, 1923: Richard E. Dodge, Connecticut Agricultural College

Mabel C. Stark, State Normal School, Salem, Mass.

F. E. Williams, University of Pennsylvania.

Directors at Large: Erna Grassmuck, Rachel Day, L. H. Wood, Moina Prator, Sam Bratton, W. R. McConnell, Ellen C. Semple, J. E. Switzer, R. S. Holway.

2. The committee on resolutions consisting of Jane K. Atwood, R. S. Holway, and A. E. Parkins presented the following report which was approved:

"WHEREAS, The American Geographical Society has presented the *Journal of Geography* to the National Council of Geography Teachers to be used to promote the work of the Council, therefore be it

Resolved, That the thanks of the National Council of Geography Teachers are hereby tendered to the American Geographical Society for its generous action and for its support in publishing the *Journal of Geography*, and furthering the cause of geography teaching. Be it further

Resolved, That this resolution be spread on the minutes of the Council. Be it further

Resolved, That the secretary convey these resolutions to the American Geographical Society."

3. The following By-law was adopted:

"The *Journal of Geography* shall be administered by an editor appointed by the executive committee, with whom said committee shall act as an advisory board. The editor shall have authority to appoint editorial associates."

4. The *Journal of Geography* was formally accepted as a gift from the American Geographical Society.

5. The appointment of George J. Miller as editor of the *Journal of Geography* was approved.

6. Dr. A. E. Parkins was authorized to draw on the Treasurer for necessary funds to continue the work of the Publicity Bureau of which he is Director.

7. The place for holding the next annual meeting was left to the newly elected President and the Secretary to determine. However, it was suggested that the meeting be held in Washington, D. C.

GEO. J. MILLER, *Secretary*

GEOGRAPHICAL NEWS

THE NEBRASKA COUNCIL

The Geography Section of the Nebraska State Teachers Association held its annual session in the auditorium of the Omaha Y. W. C. A. November 5, 1920.

The hall proved inadequate to hold all teachers wishing to attend the meeting. Professor E. E. Lackey of the Wayne State Normal School spoke on "The Technique of Problem Instruction in Geography." Dr. N. A. Bengtson of the University of Nebraska gave an illustrated lecture on "Central America." President D. B. Waldo, president of the Western State Normal School at Kalamazoo, Michigan, emphasized the value of travel for the teacher of geography.

At the close of the session the State Chapter of the National Council of Geography Teachers held its annual meeting. It is the

plan of the State Council to assist teachers of the state in solving their problems in geography. Before the war several bulletins containing practical hints and valuable lists of reference material were sent out to the members of the State Council. For this year the officers plan to continue the work interrupted by the war. The educational papers of the state will be asked to devote a certain amount of space to contributions from members of the council. The first instalment will be a list of references on the geography of Nebraska.

The following officers were elected for the coming year: State Director, Dr. N. A. Bengtson, Lincoln; President, Professor E. E. Lackey, Wayne; Vice-President, Rose B. Clark, Peru; Corresponding Secretary, Professor J. T. Link , Seward; Secretary-Treasurer, Jeanette C. Nelson, Lincoln.

Forty-six teachers paid their subscription to the *Journal of Geography* and became new members of the State Council while sixty-three signified their intention of becoming members.

J. T. LINK, *Corresponding Secretary*

UNION OF GEOGRAPHERS AT THE UNIVERSITY OF LEIPZIG

The teachers and students of geography at the University of Leipzig have for some years past been organized in a Union which conducts field trips, holds meetings, and publishes "Mitteilungen." The eighty pages of their fourth volume, recently issued, contain delayed reports by student members on three university excursions: to the Riesengebirge in Easter, 1914; to east Thuringia, in May, 1915, and to the Erzgebirge in May, 1916. The subjects treated range widely from geology thru geography to history; the treatment bears abundant marks of being based on careful records in the field and of being written out with earnest thoroness. The third report is much the easiest to understand, because it is presented in systematic order: structure and morphogeny, valleys, resistant rocks of igneous contact zones and their forms, basaltic structures, and modifications caused by man. The other two, which are presented in narrative form, seem, if one may judge by the absence of general introductory descriptions and by the freedom with which unimportant place names are used as guides to the location of physiographic features, to be prepared chiefly for the edification of local readers already familiar with the districts visited. They make difficult reading for distant readers. It may be questioned whether narrative reports, in which the needs of other geographers than those of central Europe are little considered, constitute the best

form of written exercises for students whose later essays must be addressed to a widely scattered constituency; and it is unfortunate that no example of regional presentation is included, for nothing but conscious training in that highest and most difficult form of geographical treatment can lead to expertness in it.

Altho geological erudition is much less obtrusively manifest in these reports than is often the case in German physiographic studies, it appears here and there, as in an inquiry concerning the extension of the Cretaceous sea over a certain mountain mass, and in the specification of the end of upper Carboniferous time as the date of a certain igneous intrusion. It would be well for young geographers to consider seriously how far it is desirable to dilute reports on their own science by the unnecessary introduction of irrelevant items like these from another. The entire lack of outline maps, landscape sketches, and explanatory diagrams is much to be regretted. The preparation of such graphic aids is so essential in the training of a would-be-geographer that their absence from reports on field excursions must be deplored. Better shorten the text than omit them altogether.

W. M. DAVIS

CAMBRIDGE, MASS.

PENNSYLVANIA STATE COUNCIL ORGANIZED

A Geography Conference was held in connection with the Pennsylvania State Educational Association in Harrisburg on Tuesday, December 28, 1920.

During the temporary organization, Miss Zoe A. Thralls, Head of the Department of Geography at Indiana State Normal School, acted as chairman, and the purpose of the conference was presented and discussed. The needs of a permanent organization were so urgently felt by all present that a motion was unanimously passed that we organize a Council of Geography Teachers of Pennsylvania and appeal to the executive committee of the state Teachers' Association for a section.

The whole body acted as a nominating committee. Miss Zoe A. Thralls, chairman of the conference, was elected president by unanimous vote. Miss Elizabeth Kurtz of East Stroudsburg State Normal School was elected secretary. Appointment of committees was left to the president. After the following suggestions and decisions the council adjourned for conference with Miss Erna Grassmuck, State Supervisor of Geography.

Suggestions:

1. Two classes of members, active and associate; latter pay smaller fee
2. State course of study worked into a syllabus
3. Material available to schools
4. Centralization of available material
5. Collection of data of available material
6. Information available on textbooks, books for children, and books for teachers
7. A source of definite information
8. Rural problem, a separate problem to work out
9. Miss Grassmuck and teachers work through council

Decisions: Work of council for the year shall be as follows:

1. Course of study
2. Organization of material
3. Rural problem

We were very fortunate in having with us Miss Erna Grassmuck, State Supervisor of Geography, Chas. R. Toothaker, Curator of Philadelphia Museums, and C. F. Hoban, Superintendent of the Dunmore schools.

ELIZABETH KURTZ, *Secretary*

MASSACHUSETTS COUNCIL MEETING

The Massachusetts Council of Geography Teachers held its winter meeting in Boston on January 15. A large audience completely filled the hall. About a hundred and fifty teachers signed the membership cards of the State Council and nearly half of these joined also the National Council.

Miss Ona I. Nolan gave a practical description of work in the "Socialized Recitation in Geography" as carried on in her classes in the Emerson School, Boston. The talk was so helpful that we hope that it may shortly appear in the *Journal* and thus reach more teachers.

Professor Frederick J. Turner of Harvard University gave a lecture on "Some Relations of Geography and History in the Mississippi Valley." This was illustrated by maps which showed well the great influence which geography has played in shaping the political history of the country.

Dr. Wallace W. Atwood, Chairman of the State Council and recently elected President of the National Council, gave an inspiring talk on "Recent Tendencies in the Development of Geography."

After the meeting, the Executive Committee enjoyed an informal luncheon at the Brunswick Hotel at which plans for the coming year were discussed.

NELLIE B. ALLEN, *Secretary*

GEOGRAPHICAL PUBLICATIONS

Harold W. Fairbanks. **California**. 236 pp., 125 photos. Harr Wagner Pub. Co., San Francisco. $1.25.

California, the second book in H. W. Fairbanks' series of "Progressive Geographies," has been received with special interest because the series promised something really new in a geography text. This book is different in a number of ways. In the first place, by means of it the "New Progressive Geographies" gives a larger place to the home state than has been given by any other text or series.

This book—California—has only two maps, but this seeming lack is to be more than made up by the "Atlas"which is being arranged to accompany it. An atlas means a larger number of maps, in a more convenient form and of a larger size than is possible in our geographies. Geography teachers will find this one of the important features of the series.

The question and answer method of presenting the subject matter has been so long discarded that it seems new. It is new in that the older texts consisted of fact questions briefly answered, while this text makes use of the problem and carefully works out the solution. This arrangement is likely to prove a stumbling block to the average teacher who will be tempted to confine her teaching to hearing the lesson. Children find too frequent use of this method in their textbooks tedious.

Tho the book is intended for the intermediate grades, its vocabulary, sentence structure and wealth of detail make it better adapted to the seventh and eighth grades.

It will be of special value to the teacher as a reference book because of its use of the problem method and the intensive study it makes of California.

AMY E. WARE

Warrensburg, Mo.

A. C. Trowbridge, **The Erosional History of the Driftless Area**. University of Iowa Studies, Studies in Natural History, Vol. IX, No. 3, First Series No. 40, Jan. 1, 1921.

Dr. Trowbridge's paper on "The Erosional History of the Driftless Area" is divided into two parts. The first part is devoted to "multiple erosion cycles in principle." Here the various evidences of dissected peneplains are discussed in a very satisfactory manner. In the second part the author applies these criteria to the Driftless Area. He reaches the conclusion that the region, altho now a series of cuestas in rather close accord with differences in rock resistance, shows evidences of two periods of peneplaination. Of these the older plain lies at the level of the several cuesta summits and the lower explains the flattish uplands between the cuestas. The older plain is assigned to the late Tertiary and the younger to either that period or to the early Pleistocene.

The paper deals with some of the most complicated and controverted phenomena of the Driftless Area. It will be welcomed particularly for use by advanced students of physiography but it does not follow that the conclusions will be universally accepted.

F. T. THWAITES

Madison, Wis.

Theodore Marburg and Horace E. Flack. **Taft Papers of the League of Nations.** xx and 331 pp. Macmillan Co., New York. 1920. $4.50.

The volume consists of speeches, articles and editorials by former president William Howard Taft on the League of Nations, covering the period from May 12, 1915, to the adoption of the revised Paris Covenant, April 28, 1919, to which has been added one article on the revised Covenant. Mr. Taft points out in his Foreword that "the present issue over the League is very different from that when these papers were written, and is made so by the very unfortunate attitude of President Wilson in refusing to allow the United States to join the League of Nations because the Senate would not consent to Article X as he had drafted it and put it into the Covenant."

Arthur Sweetser. **The League of Nations at Work.** 215 pp. Macmillan Co., New York. 1920. $1.75.

The author was a member of the American Peace Commission and a member of the Provisional Secretariat of the League of Nations. The purpose of the volume is to set forth what the League has actually accomplished up to date. It discusses such subjects as the following: The League Skeleton, The Assembly and the Council, The Permanent Court, The Secretariat, Disarmament, Minorities, Mandates, Freedom of Transit, International Labor Organization, International Health Organization, Economic Opportunity, Open Diplomacy, and The League as Mediator.

Marion I. Newbigin. **Aftermath. A Geographical Study of the Peace Terms.** 128 pp., 15 maps. W. & A. K. Johnston, Edinburgh. American agents, A. J. Nystrom Co., Chicago. 1920. Paper $1.00, cloth $1.50.

The author attempts to present an outline picture of the New Europe formed by the various peace treaties, without assuming that conditions are permanent. He has brought together a body of data that will prove very helpful to the teacher confronted with the problem of teaching European geography. The following chapter titles indicate the character of the material presented: The Underlying Principles of the Peace Treaty; The Reversal of Prussian Policy in the West; The Reconstruction of Poland; The New Austria; The Dismemberment of Hungary; Czecho-Slovakia and Its Problems; Greater Rumania and the Serb-Croat-Slovene State; Balkan Problems and the Near East; The Russian Border States; The Fate of Germany's Overseas Possessions; Summary and Conclusion.

Paul Chatinieres. **Dans Le Grand Atlas Marocain.** 294 pp., 1 map, 16 photos. Introduction by General Lyautey. Plon-Nourrit and Co., Paris. 1919.

The volume is based upon extracts from the note book of a physician who traveled thru the region giving medical aid to the natives. Evidently the purpose of the journey was to gain the interest and confidence of the people and thus aid in the pacification of the territory. The geographical value of the volume lies in its description of the people and region.

Charles T. Simpson. **In Lower Florida Wilds.** 393 pp., 2 maps, 73 photos. G. P. Putnam's Sons, New York. 1920. $3.50.

The volume is a naturalist's observations on the life, physical geography, and geology of the more tropical part of Florida. The author has resided more than twenty years in the region he describes and in that time has witnessed many changes in the abundance of the fauna, many species of which are now rapidly disappearing. His description of the plant and animal life, the struggle among plants and animals for existence and a chance to multiply, is written in an interesting style. The work is that of one who loves the country he writes about. The lure of the region has taken him back into the depths of the forest and swamp many times after he had foresworn another trip. The volume gives an abundance of information concerning a region which is like the "Dark Continent" to most laymen. One gains the impression that the author's familiarity with the flora and fauna is more intimate than with geological facts and theories. The illustrations are excellent.

Charles M. Bakewell. **The Story of the American Red Cross in Italy.** 253 pp., 2 maps, 19 photos. Macmillan Co., New York. 1920. $2.00.

G. A. Cornish and David Whyte. **Geographical Changes Due to the Great War.** 40 pp., 3 maps. Dept. of Education, Parliament Buildings, Toronto. 15 cents.

A brief summary of data concerning each of the countries of Europe, Africa, Asia and Oceania affected by the war. Aside from some unfortunate errors the volume will be found very useful. It seems strange to find Alsace-Lorraine shown as a plebiscite area.

Samuel Crother. **Who is Old King Coal?** *W. Work*, Dec., 1920, p. 170.

"Personal and impersonal elements in the cost and waste of coal."

William E. Smythe. **Struggle for the Nile.** 1 map, 10 photos. *R. of R.*, Dec., 1920, p. 607. A discussion of the resources, development and irrigation system of the region.

Charles Mayer. **Trapping an Elephant Herd in Trigganu.** 4 photos. *Asia*, Dec., 1920, p. 1055. A description of the country and the customs of the natives.

Robertson Scott. **The Way of the Farmer in Japan.** 5 photos. *Asia*, Dec., 1920, p. 1096. An article depicting his customs, methods and progress.

J. Ellis Barker. **Germany's Economic Condition.** *Cur. Hist.*, Dec., 1920, p. 357.

Jonas Vileisis. **Lithuania's Place Among the Nations.** *Cur. Hist.*, Dec., 1920, p. 380.